

**FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST 6175
MARINE INDUSTRIES NORTHWEST, INC.**

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INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No. ST 6175. The Department of Ecology (the Department) is proposing to issue this permit, which will allow discharge of wastewater to waters of the State of Washington. This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

Washington State law (RCW 90.48.080 and 90.48.162) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. Regulations adopted by the state include procedures for issuing permits (Chapter 173-216 WAC), and water quality criteria for ground waters (Chapter 173-200 WAC). They also establish requirements which are to be included in the permit.

This fact sheet and draft permit are available for review by interested persons as described in Appendix A--Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D--Response to Comments.

GENERAL INFORMATION	
Applicant	Marine Industries Northwest, Inc.
Facility Name and Address	313 East F Street Tacoma, WA 98401
Type of Facility	Ship Construction and Repair
Type of Treatment:	Sedimentation and Filtration
Discharge Location	Infiltration Basin to Groundwater Latitude: 47° 15' 35" N Longitude: 122° 25' 47" W
Contact at Facility	Robert J. Morris wk: (253) 627-9136
Permit Writer	John Y. Diamant, P.E. Industrial Facility Manager, WQP Department of Ecology - SWRO P.O. Box 47775 Olympia, WA 98504-7775 wk: (360) 407-6289 fax: (360) 407-6305

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

HISTORY

Marine Industries Northwest, Inc. (MINW) has been operating a shipyard at its present location on the Middle Waterway in Tacoma since 1981. The facility covers approximately 2.8 acres of waterfront on the northwest side of the Middle Waterway. The facility provides a variety of construction and repair services for marine vessels. There is a marine railway and a floating dry dock on-site. This facility was paved and a stormwater collection, treatment, and infiltration system was installed in 1996 and was operational in January 1997. The workforce averages approximately 70-90 union employees.

INDUSTRIAL PROCESSES

MINW services on average over 100 vessels annually, with approximately one-fourth of the vessels being serviced on the marine railway, one-fourth on the floating dry-dock, and the remainder at pier side. Figure 1 shows the vicinity map and site plan. Typical operations at this facility consist of:

1. hauling vessels out of the water for the purpose of inspection, repair, maintenance, modification, and/or rebuilding on a 600-ton capacity marine railway and a 2,800-ton capacity floating dry-dock;
2. performing similar activities on vessels while they are moored afloat pier side;
3. structural steel and aluminum work in a covered work area, onboard vessels, alongside the dock, or while on the railway or dry-dock. There are specialized shops or work areas that carry out woodwork and carpentry, pipefitting, machining, and machine shop fabrications, electrical work, and surface preparation and protection consisting of hydroblasting (pressure washing), abrasive blasting, and application of coatings.

This facility has been previously permitted under State Waste Discharge Permit No. ST 6175 for the discharge of treated stormwater, rinse water and treated hydroblast wastewater to ground via an infiltration basin. This facility is also permitted under an NPDES Permit (No. WA0040444) for dry-dock and marine railway stormwater discharge to the Middle Waterway.

TREATMENT PROCESSES

An Engineering Report titled: **Remedial Action Stormwater Collection, Containment and Treatment System (Agreed Order 95TC-S362) – Prepared for Marine Industries Northwest, Inc.** (Landau Associates, Inc., June 1996) was submitted to the Department and approved by the Department on July 15, 1996. The Engineering Report provides the design evaluation, criteria and plans for constructing the sedimentation and infiltration basins and describes improvements proposed to the stormwater collection system.

Figure 2 provides a process flow schematic of the stormwater collection and treatment systems.

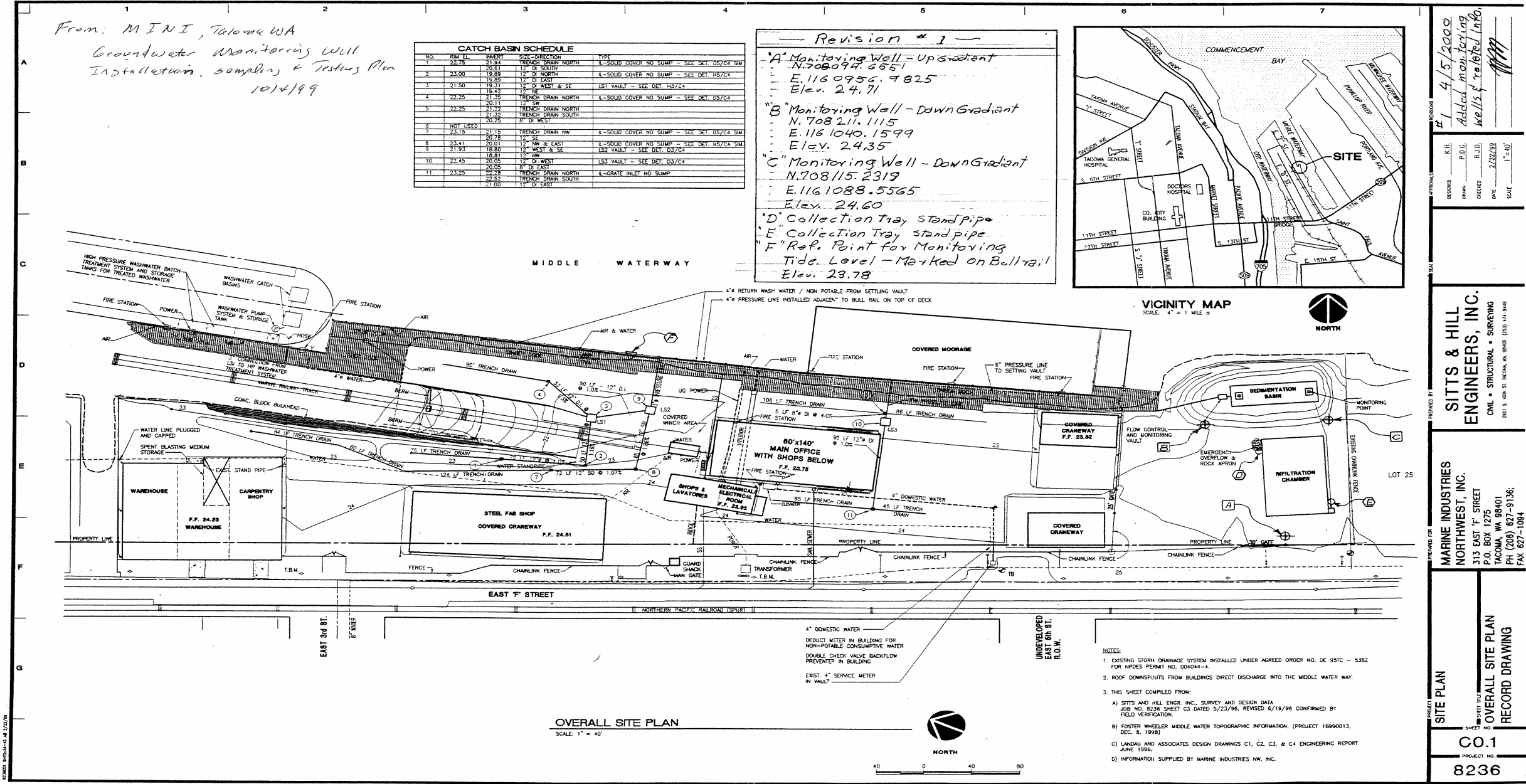


Figure 1. Vicinity Map and Site Plan.

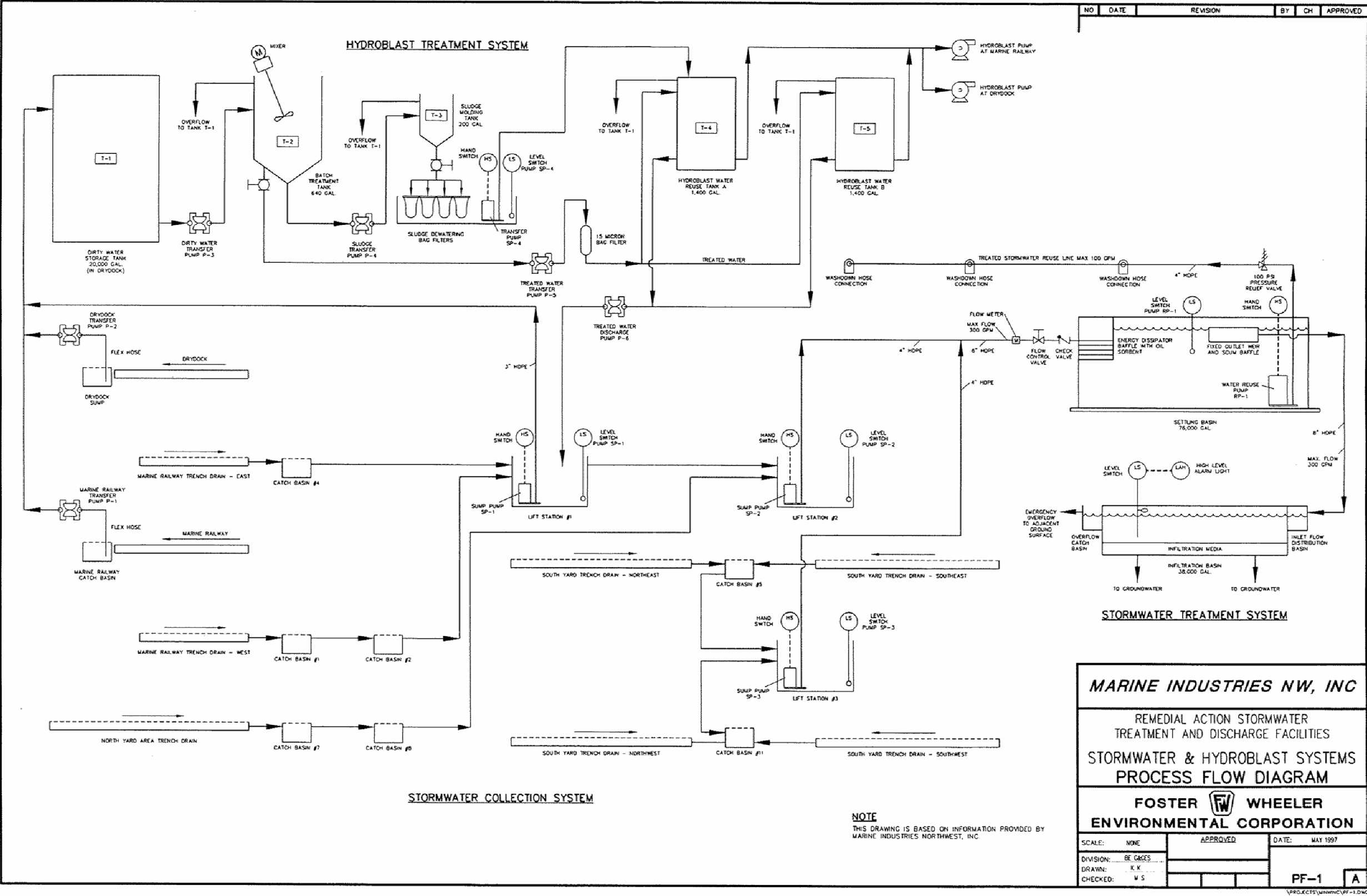


Figure 2. Stormwater Collection and Treatment Systems Process Flow Schematic.

Stormwater runoff from paved surfaces within the shipyard is contained, collected, treated and reused when practicable for housekeeping and make-up water for the hull pressure wash system. The existing shipyard covers an area of approximately 121,000 ft²; of which, approximately 24,550 ft² are buildings that are served by roof drains. All building roof drains are collected separately and discharged through stormwater outfalls SW001 and SW004 to Middle Waterway without treatment. MINW currently has Best Management Practices (BMPs) in place for managing stormwater from rooftops and drains and as a result, the impacts from this stormwater is considered negligible at this time. The remaining, 96,450 ft² area of the shipyard is collected and conveyed to an on-site sedimentation basin. There are two lift stations which serve to convey stormwater to either the on-site sedimentation basin or the Hydroblast treatment system. Currently, no chemicals are added during the stormwater treatment system process.

Hydroblast wastewater is collected and pumped to an approximate 20,000 gallon holding tank located on the dry-dock. This water is treated using a batch treatment process for water reuse. Treated water that cannot be reused is sent back to lift station #1 and #2 to be conveyed to the sedimentation basin for further treatment and eventual disposal to ground via the infiltration basin. The batch treatment system is comprised of a 640-gallon capacity batch treatment tank housing a mechanical mixer with a batch volume of 450-500 gallons. The batch system allows for coagulation, flocculation, and settling for the removal of colloidal solids. A coagulant is used during this batch treatment process. The batch treatment tank effluent is further passed through a 50-micron (µm) filter fabric bag and then stored in one of two 1,400 gallon tanks for reuse.

The stormwater sedimentation basin is designed for a volume of 75,900 gallons which is approximately equivalent to the total volume of stormwater generated from a 6-month, 24-hour storm event. A scum baffle is provided to prevent the discharge of floating material from the sedimentation basin. Grit, and solids in the stormwater and treated rinsewater have an opportunity to settle out in the sedimentation basin providing a primary level of treatment.

The effluent from the sedimentation basin flows to the stormwater infiltration basin. This basin was designed to percolate the volume of runoff generated from a 6-month, 24-hour storm event at a continuous flow rate of 300 gpm (which is the maximum flowrate that the two lift stations can pump simultaneously). The infiltration basin is sized to provide 6.4 times the surface area required for infiltration of a 6-month, 24-hour storm event. The basin also provides approximately 38,000 gallons of storage in case no infiltration occurs. There is a high water alarm installed in case of emergency.

GROUND WATER

Groundwater and soils data are referenced to the Engineering Report (Landau and Associates, 1996). Native soils in the area were determined to be sand and silty sand corresponding to hydrologic group B. The soil has a cation exchange capacity of 5.7 meq/100 g. The seasonal high groundwater level is approximately 3-5 feet below the base elevation of the infiltration basin. There is no known drinking water supply well located within a one mile radius of the

infiltration basin. The infiltration basin appears to meet all minimum (setback) requirements for groundwater recharge. The surrounding land has less than 1 percent of slope.

PERMIT STATUS

The previous State Waste Discharge Permit for this facility was issued on August 4, 1999 and expired on June 30, 2004. The Permittee also has an NPDES Permit (No. WA0040444) for the discharge of stormwater runoff from the marine railway and the dry dock into the Middle Waterway.

An application for permit renewal of this State Waste Discharge Permit was submitted to the Department on February 17, 2004 and accepted by the Department on June 25, 2004.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an announced inspection on July 22, 2004.

The Permittee has incurred a penalty of \$20,632 for several violations to both their State Waste Discharge Permit and their NPDES Permit that were incurred during the previous permit cycle (Notice of Penalty Incurred and Due No. DE 1067). The following provides a list of the penalized violations that correspond to the previous State Waste Discharge Permit:

- At the time of the penalty, no monthly stormwater and rinse water monitoring results have been received for the years 2002 and 2003 as required by Special Conditions S2.A and S3.A of the previous permit.
- At the time of the penalty, no Hydroblast water monitoring results have been received for the years 2002 and 2003 as required by Special Conditions S2.B and S3.A of the previous permit.
- Special Condition S2.D of the previous permit establishes semi-annual (twice per year) monitoring requirements for three ground water monitoring wells. These results were to be submitted yearly. At the time of the penalty, only the monitoring results collected on September 28, 2000 were collected.
- Special Condition S4.A requires annual review of the facility's Operations and Maintenance Manual. The Permittee is required to confirm the review by letter and/or Manual update to the Department. At the time of the penalty, the Department had not received any review confirmation letters and/or manual updates.
- General Condition G7 requires the Permittee to apply for permit renewal at least 180 days prior to the expiration date of the permit. This application was due January 2, 2004 and was not received until February 17, 2004.

Failure of the Permittee to monitor and report leaves the Department with no way of determining compliance with the permit limits, does not provide the data needed to evaluate the impact of the discharge on the receiving waters and does not provide the data on the long-term effectiveness of the treatment system. The small amount of data available shows that the discharge limitations in the previous permit were satisfactorily met. In response to these deficiencies, in-light of the penalty incurred, this permit recommends that additional data is

needed to better characterize the effluent which will be collected as part of the monitoring requirements of this permit cycle and will be reviewed and utilized for the next permit. It is also recommended that groundwater enforcement limits and early warning values are needed to protect the groundwater quality as defined in WAC 173-200.

WASTEWATER CHARACTERIZATION

The concentration of pollutants in the sedimentation basin effluent discharge was from DMR reports. The proposed wastewater discharge characterization prior to infiltration is summarized for the following parameters in Table 1.

Table 1: Sedimentation Basin Effluent Wastewater Characterization.

Date	Flow (gpd)	O&G (mg/L)	pH (s.u.)	TSS (mg/L)	Total Cu (µg/L)	Total Pb (µg/L)	Total Zn (µg/L)
May-2004	48,774	0	7.28 (max) 7.14 (min)		315		515
Apr-2004	15,011	0	6.62		210		480
Mar-2004	26,045						
Feb-2004	18,430	2.2	6.58 (max) 6.53 (min)		180		580
12/10/1998			6.53	<0.5	40	<40	380
12/10/1998			6.62	32	90	<40	440
5/14/98			6.56	9.3	280	<40	720
3/20/98			5.86	9	54	<40	690
10/30/97			6.02	50	1,200	<40	700
7/8/97			6.86	3	142	2	771
4/28/97			6.68	3	81	12	438

SEPA COMPLIANCE

There are currently no known SEPA compliance issues concerning this facility's discharge to ground.

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be either technology- or water quality-based. Wastewater must be treated using all known, available, and reasonable treatment (AKART) and not pollute the waters of the State. The minimum requirements to demonstrate compliance with the AKART standard were determined in the Engineering Report titled: **Remedial Action Stormwater Collection, Containment and Treatment System (Agreed Order 95TC-S362) - Prepared for Marine Industries Northwest, Inc.** (Landau Associates, Inc., June 1996) and the **AKART Analysis Report - Marine Industries Northwest, Inc., Tacoma, WA** (Landau Associates, Inc., March 1996), in conformance with *Guidelines for the Preparation of Engineering Reports for Industrial Wastewater Land Application Systems*, May 1993.

The permit also includes limitations on the quantity and quality of the wastewater applied to the infiltration basin that have been determined to protect the quality of the ground water. The approved engineering report includes specific design criteria for this facility. Water quality-

based limitations are based upon compliance with the Ground Water Quality Standards (Chapter 173-200 WAC).

The more stringent of the water quality-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by the Department must specify conditions requiring available and reasonable methods of prevention, control, and treatment of discharges to waters of the state (WAC 173-216-110). The following permit limitations are necessary to satisfy the requirement for AKART:

Hydroblast Wastewater: In July 1994, the Permittee submitted an engineering report for chemical treatment/storage/re-use of the Hydroblast wastewater. The treatment system consists of an approximately 20,000-gallon storage tank, a 700-gallon cone – bottom chemical treatment/clarification tank, a 200-gallon sludge collection tank and a bank of reusable filters for liquid-solids separation. Treated water is transferred to two 1,400-gallon tanks (total of 2,800 gallons) for storage and reuse. Approximately 90 percent of the treated Hydroblast water is reused. MINW will discharge treated Hydroblasting water into the stormwater treatment system when the storage tanks are full or when treated Hydroblast water is needed for blending.

The previous permit established limitations for the treated Hydroblasting water before discharge into the stormwater treatment system (previously designated as Outfall 002). These limitations have been removed in this permit. The rationale behind removing these permit limitations was due to the fact that there is no discharge of treated Hydroblast directly to waters of the State. Approximately 90% of treated Hydroblast wastewater is re-used and the remaining portion is sent to the sedimentation and infiltration basins for further treatment. It has been determined that the enforcement of technology-based limitations at both Outfall 001 and 002 is not necessary to ensure that adequate treatment is being attained. This permit still utilizes technology-based effluent limitations for Outfall 001 and it is the intent of this permit to use Outfall 001 as the technology compliance point for the combined 10% of the treated Hydroblast wastewater and the facility's stormwater after sedimentation (sedimentation basin effluent).

Rinse Wastewater: Rinse wastewater is generated from a variety of activities at the MINW facility, including hose down of paved areas (yard and marine railway), vessel decks, and hulls after dry sweeping and vacuuming for solids collection has been accomplished. City water is used for all these operations. The wastewater generated from these operations is similar in quality to general stormwater runoff from the yard. Rinse wastewater is disposed of through the stormwater collection and treatment system.

Stormwater: Stormwater runoff is generated from the property as a result of incidental precipitation. Through implementation of BMPs, MINW has instituted a series of controls to minimize the contamination of stormwater runoff from their yard. Stormwater runoff from the paved areas of the yard is collected through a series of catch basins and collection trenches and pumped through lift stations into the 75,000-gallon sedimentation basin. From the sedimentation basin, the stormwater infiltrates directly into the groundwater. The stormwater

conveyance system should provide for containment and collection of all paved area stormwater runoff resulting from the 24-hour 100-year recurrence interval event.

Sedimentation Basin Effluent: The technology-based limitations for copper and zinc in stormwater were calculated from the data taken from the effluent of the sedimentation basin (as summarized in Table 1). Table 2 shows the calculated performance-based permit limits for copper and zinc.

Performance based limits for copper and zinc were calculated as the 95th percentile of the data shown in Table 1. A hardcopy printout of the spreadsheet which was used to calculate these limits are shown in Appendix C. As shown in the spreadsheet, the performance evaluation of MINW data (even with a limited amount of data) results in lower performance-based limitations than was established in the previous permit. Since there is evidence that MINW can meet more stringent performance-based limitations, the more stringent limitations are established in this permit. It should be noted that this shows some positive progress on the part of the Permittee to further reduce the amount of their pollutant discharge. The previous permit has shown that lead is present in negligible quantity in stormwater and therefore no permit limitations for lead are necessary.

Table 2: Calculated Performance-Based Permit Limits.

Parameter	Calculated Performance-Based Limits (µg/L)
Total Copper	802
Total Zinc	748

The performance-based limits for this permit were evaluated based on ten data points for outfall 001. In order to properly derive performance-based limitations for stormwater, an extended period (5-7 years) of performance data is needed. After data has been collected for the duration of this permit cycle, technology-based limitations for will be further refined based on system performance. The permit limitations may change based on both performance data and groundwater monitoring data. Results from the up-gradient and down-gradient wells will provide information concerning the background concentration of copper, zinc, and oil & grease and impact of stormwater discharge into the groundwater, respectively. If permit limitations need to be changed, a permit modification can be issued or permit limitations can be revised in the new permit for the next permit cycle.

Infiltration Basin: The infiltration basin at MINW is designed as a “water quality infiltration basin” according to the specifications identified in the Stormwater Management Manual for the Puget Sound Basin (Ecology, 1992b). More detailed descriptions of the waste streams and the stormwater collection/treatment system design can be found in the Engineering Report (Landau Associates, Inc., June 1996). The treatment occurring as the water infiltrates into the groundwater is best evaluated by the sedimentation basin effluent and the groundwater monitoring well data. No technology-based limitations are necessary for the infiltration basin since groundwater enforcement limits and early warning values are established.

Oil & Grease: The permit has average monthly limits of 10.0 mg/L for oil and grease for Outfall 001 is a technology-based limit. These limits are based on the use of gravity oil/water separators and satisfy the federal requirement for the best conventional pollutant control technology (BCT) and the state requirement for AKART.

pH: The permit establishes a range of 6.5-8.5 for which pH must fall between for Outfall 001. This range for pH is the groundwater quality standard as defined in Chapter WAC 173-200.

GROUND WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's ground waters including the protection of human health, WAC 173-200-100 states that waste discharge permits shall be conditioned in such a manner as to authorize only activities that will not cause violations of the Ground Water Quality Standards. Drinking water is the beneficial use generally requiring the highest quality of ground water. Providing protection to the level of drinking water standards will protect a great variety of existing and future beneficial uses.

Applicable ground water criteria as defined in Chapter 173-200 WAC and in RCW 90.48.520 for this discharge include the following:

Table 3: Ground Water Quality Criteria

pH	6.5 to 8.5 standard units
Total Copper	1,000 µg/L
Total Zinc	5,000 µg/L

The Department has reviewed existing records and is unable to determine if background ground water quality is either higher or lower than the criteria given in Chapter 173-200 WAC; therefore, the Department will use the criteria expressed in the regulation as the enforcement limitations in the proposed permit. The early warning values for ground water were set at one-half of the enforcement limitations for ground water. The discharges authorized by this proposed permit are not expected to interfere with beneficial uses. **The enforcement limitations and early warning values apply only to wells B and C.**

The resultant effluent limits were as follows:

Table 4: Ground Water Quality-based Limitations.

Parameter	Limitation
<i>Enforcement Limitations for Ground Water</i>	
Total Copper	Maximum daily of 1,000 µg/L
Total Zinc	Maximum daily of 5,000 µg/L
<i>Early Warning Values for Ground Water</i>	
Total Copper	Maximum daily of 500 µg/L
Total Zinc	Maximum daily of 2,500 µg/L

Insufficient upgradient background data were available to adequately determine the background ground water conditions. The Permittee is required in section S1.B of the proposed permit to collect ground water data once a month instead of twice a year as required in the existing permit. This information will be reviewed regularly and may result in a permit modification or revised limits in the next permit renewal.

COMPARISON OF LIMITATIONS WITH THE EXISTING PERMIT ISSUED AUGUST 4, 1999

Table 5: Comparison of Previous and New Limits

Parameter	Existing Limits	Proposed Limits
<i>Stormwater and Rinsewater – Outfall 001</i>		
Oil and Grease	Monthly average of 10 mg/L	Same
Total Copper	Monthly average of 880 µg/L	Monthly average of 802 µg/L
Total Zinc	Monthly average of 900 µg/L	Monthly average of 748 µg/L
pH	Within the range of 6.5 to 8.5 s.u.	Same
<i>Hydroblast Wastewater – Outfall 002</i>		
Oil and Grease	Monthly average of 10 mg/L	No Longer Applicable
Total Copper	Monthly average of 830 µg/L	No Longer Applicable
Total Zinc	Monthly average of 291 µg/L	No Longer Applicable
pH	Within the range of 6.5 to 8.5 s.u.	No Longer Applicable
<i>Enforcement Limitations for Ground Water</i>		
Total Copper	None	Maximum daily of 1,000 µg/L
Total Zinc	None	Maximum daily of 5,000 µg/L
<i>Early Warning Values for Ground Water</i>		
Total Copper	None	Maximum daily of 500 µg/L
Total Zinc	None	Maximum daily of 2,500 µg/L

Note: enforcement limitations and early warning values only apply to wells B and C.

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, that ground water criteria are not violated, and that effluent limitations are being achieved (WAC 173-216-110).

Monitoring is required for the sedimentation basin effluent (outfall 001) and for groundwater at the three designated groundwater monitoring well locations.

WASTE WATER MONITORING

The monitoring schedule is detailed in the proposed permit under Condition S1. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

Due to the small size of the monitoring database for this facility, monitoring done during this permit cycle will be used to further characterize the Hydroblast treatment effluent, sedimentation basin effluent and groundwater. This data will be evaluated and utilized during the permit renewal process for the next permit cycle (2009-2014).

GROUND WATER MONITORING

The monitoring of ground water at the site is required in accordance with the Ground Water Quality Standards, Chapter 173-200 WAC. The Department has determined that this discharge

has a potential to pollute the ground water. Therefore, the Permittee is required to evaluate the impacts on ground water quality. Monitoring of the ground water at the site boundaries and within the site is an integral component of such an evaluation. Groundwater monitoring shall be in accordance with the State waste discharge permit number ST 6175 Special Condition S1.B.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The Special Conditions of S2 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-216-110).

OPERATIONS AND MAINTENANCE

The proposed permit contains Special Condition S.3 as authorized under Chapter 173-240-150 WAC and Chapter 173-216-110 WAC. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment. The proposed permit requires submission of an updated O&M Manual for the entire wastewater collection and treatment system.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to ground water permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Conditions G7 and G8 relate to permit renewal and transfer.

Condition G9 requires the payment of permit fees. Condition G10 describes the penalties for violating permit conditions.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, and to protect human health and the beneficial uses of waters of the State of Washington. The Department proposes that this permit expire on June 30, 2009. This is for a period of less than 5 years but conforms to the Department's goal of managing permits in each water quality management area on a 5 year cycle.

REFERENCES FOR TEXT AND APPENDICES

Foster Wheeler Environmental Corporation. Marine Industries Northwest, Inc., Tacoma, WA – Groundwater Monitoring Well Installation, Sampling and Testing Plan. October 1999.

Landau Associates, Inc. AKART Analysis Report – Marine Industries Northwest, Inc., Tacoma, Washington. March 18, 1996.

Landau Associates, Inc. Engineering Report - Remedial Action - Stormwater Collection, Containment, and Treatment System (Agreed Order 95TC-S362). June 28, 1996.

Marine Industries Northwest, Inc. Engineering Report Addressing Site Paving, Collection and Treatment of Stormwater, and a Covered Storage Area for Spent Abrasive Blasting Material as Required by Special Condition S.10.F of NPDES Permit #WA0040444. March 1995.

Marine Industries Northwest, Inc. Marine Railway, Drydock, and Pierside Vessel Best Management Practices Manual – Includes: Drydock BMPs, Marine Railway BMPs, Pierside Vessels BMPs, Solid Waste Control Plan, Liquid Waste Control Plan and Spill Control Plan. Revision 0. December 15, 1999.

Marine Industries Northwest, Inc. Waste Discharge Permit Compliance Manual – Includes: Stormwater System Operating Plan, Hydroblast Operating Plan, BMPs, Solid Waste Control Plan, Liquid Waste Control Plan and Spill Control Plan. May 1997.

Washington State Department of Ecology, 1993. Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems. Ecology Pub. No. 93-36.

Washington State Department of Ecology. Guidance Manual for Preparing/Updating a Stormwater Pollution Prevention Plan for Industrial Facilities. Ecology Pub. No. 04-10-030.

Washington State Department of Ecology. Implementation Guidance for the Ground Water Quality Standards. Ecology Pub. No. 96-02.

Washington State Department of Ecology. Laws and Regulations Website.
<http://www.ecy.wa.gov/laws-rules/index.html>.

Washington State Department of Ecology. Permit and Wastewater Related Information Website.
<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>.

Fact Sheet for State Waste Discharge Permit ST 6175
Marine Industries Northwest, Inc.

Washington State Department of Ecology. Stormwater Management Manual for Western Washington. Ecology Pub. Nos. 99-11 through 99-15.

APPENDICES

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on July 13, 2003 and July 20, 2003 in *The News Tribune* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on October 4, 2004 in *The News Tribune* to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 4:30 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Industrial Unit Permit Coordinator
Department of Ecology
Southwest Region - Water Quality
P.O. Box 47775
Olympia, WA 98504-7775

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone: 360/407-6280, email: lcon461@ecy.wa.gov, or by writing to the address listed above.

This permit was written by John Diamant, P.E.

APPENDIX B--GLOSSARY

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation--The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of the collection or treatment facility.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring -Uninterrupted, unless otherwise noted in the permit.

Distribution Uniformity--The uniformity of infiltration (or application in the case of sprinkle or trickle irrigation) throughout the field expressed as a percent relating to the average depth infiltrated in the lowest one-quarter of the area to the average depth of water infiltrated.

Engineering Report--A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)--A calculated value five times the MDL (method detection level).

Soil Scientist--An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and have 5,3,or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria--A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

Total Dissolved Solids--That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent pollution of the receiving water.

APPENDIX C--TECHNICAL CALCULATIONS

MINW STATE WASTE DISCHARGE PERMIT (ST 6175)							
CALCULATION OF PERFORMANCE-BASED EFFLUENT LIMITS FOR COPPER AND ZINC							
		Date	Copper Conc. (µg/L)		Date	Zinc Conc. (µg/L)	
		5/1/04	315.00		5/1/04	515.00	
		4/1/04	210.00		4/1/04	480.00	
		3/1/04			3/1/04		
		2/1/04	180.00		2/1/04	580.00	
		12/10/98	40.00		12/10/98	380.00	
		12/10/98	90.00		12/10/98	440.00	
		5/14/98	280.00		5/14/98	720.00	
		3/20/98	54.00		3/20/98	690.00	
		10/30/97	1200.00		10/30/97	700.00	
		7/8/97	142.00		7/8/97	771.00	
		4/28/97	81.00		4/28/97	438.00	
		95th percentile	801.75		95th percentile	748.05	

APPENDIX D--RESPONSE TO COMMENTS

Marine Industries Northwest, Inc. (MINW) submitted entity review comments regarding State Waste Discharge Permit No. ST 6175 in correspondence dated September 30, 2004. Some of the comments were beyond the scope of the entity review process and were deemed by the Department to be more substantial in nature than pointing out “factual errors.” As a result, the Department requested that these comments be resubmitted for consideration as part of the public review process. MINW did not submit any comments as part of the public review process. Since these comments have already been submitted once (during the entity review process) and the problem involves complying with administrative procedures, the Department will provide MINW with the benefit of the doubt and address these comments at this time. It should be noted that the Department has no legal obligation to address these comments since they were never submitted as part of the public review process.

Entity Review Comments from MINW

Comment #1 – Sedimentation Basin Effluent – Outfall 001:

Monitoring of pH is inappropriate since there is no known instance where pH is outside of the specified pH range. Additionally the existing stormwater system does not have a pH control process. pH should, more appropriately, be monitored for each batch of treated hydroblast water discharged to the sedimentation basin. Total dissolved solids (TDS) and total suspended solids (TSS) is not appropriate for monitoring since there is no reasonable potential to exceed water quality standards. Lead was previously identified as a parameter of concern but was removed after monitoring results indicated that lead were below discharge requirements.

Response to Comment #1:

The monitoring of pH has been determined to be required for Outfall 001 on a monthly basis. A review of DMR data shows that pH does meet the previous permit’s pH limitations; however, the Permittee only submitted three data points worth of data for the entire five year permit cycle. The dataset available from the previous permit cycle is too small to make any substantial conclusions regarding the Permittee’s performance. Regardless of the Permittee’s performance with regards to pH, the pH limitations are technology-based limitations and cannot be removed since they ensure that all known and reasonable forms of treatment technologies (AKART) is being used. The Department does not agree with placing pH limitations and monitoring requirements for each batch of treated hydroblast water. pH limitations must be met at the point of discharge to State waters. The hydroblast treatment system is considered to be an internal treatment process and the Department will allow the Permittee to operate and maintain this system without Department oversight.

TDS is established as a monitoring requirement because there is a TDS groundwater standard. The previous permit did not require monitoring of TDS so there is no data available to assess whether or not meeting TDS criteria would be a problem. The intention of this permit is to require the Permittee to begin collecting TDS data at Outfall 001 and at the groundwater wells to provide an indication of how much TDS is being removed from the infiltration basin (when

compared to well data). It is also highly likely that the ambient TDS concentrations are higher than the criteria. In this case, the upstream groundwater well data is crucial for establishing a natural background TDS concentration. Please note that TDS cannot be assessed using the reasonable to exceed calculations since TDS is not considered one of the toxic parameters.

TSS is required to be monitored at Outfall 001 to begin collecting the data needed to establish technology-based TSS limits. Technology-based limits will be required to ensure that the sedimentation basin continues to provide AKART for the facility. It is anticipated that technology-based TSS limitations would be established as part of the next permit cycle. Please note that TSS cannot be assessed using the reasonable to exceed calculations since TSS is not considered one of the toxic parameters.

Lead was previously identified as a parameter of concern and was later removed as part of the evaluations done during the development of previous permits. There is no doubt that lead was justifiably removed from the list of parameters of concern at that time. However, at this time, the Department is concerned about the scarcity of data collected during this permit cycle and the small dataset used to conduct the previous evaluation to remove lead as a parameter of concern. The Department has no intention to establish lead limitations unless there is a reasonable potential to exceed lead standards. Please note that the parameters of concern for various discharges to the waters of the State is not a static and unchanging list but are constantly changing and evolving to reflect changes in water quality standards, changes in industrial practices, changes in the environment, etc.

Comment #2 – Sedimentation Basin Effluent – Outfall 001:

The average monthly limits for total copper and total zinc have been calculated from a limited dataset of quarterly monitoring data. While this data may be appropriate for assessing compliance with permit limits, it is not adequate for establishing new technology-based limits.

Response to Comment #2:

The Department realizes that there is limited data available for re-calculating the technology-based limits. The limited amount of available data is a result of prolonged violations to the previous permit where no data has been submitted by the Permittee. These violations have resulted in a monetary penalty. The revised technology-based limits uses the original dataset used to establish limits and includes a few additional data points that were submitted as part of this permit cycle (please see Appendix C). The revised limitations are based on the calculated 95th percentile concentration which is consistent with the methodology used to establish the previous technology-based limitations. Finally, in recognition that there is a lack of data available, the Department has increased the monitoring frequency from quarterly to monthly.

Comment #3 – Enforcement Limitations for Groundwater:

The parameters to be monitored have increased from that required by the previous permit without apparent justification. The need to monitor total lead, and TDS does not appear to be justified particularly with respect to frequency. Ecology should give consideration to reducing the duration for monthly monitoring of groundwater based on the observed consistency in the

data and the reasonable potential analysis of that data with respect to water quality or beneficial use impairment.

Response to Comment #3:

The Department found that the groundwater parameters identified in the previous permit does not adequately correlate with the groundwater quality standards at this time. The original permit required that oil and grease and TSS be monitored. Currently, there are no groundwater quality standards for these two parameters; therefore, groundwater monitoring for these two parameters have been removed from the permit. The previous permit also required that both total and dissolved fractions of copper and zinc be measured. Currently, the groundwater quality standards are based on the total metal form only; therefore, the need to monitor the dissolved fraction of the metals has been removed from the permit.

Water level, TDS, and total lead have been added to the permit as parameters to be monitored at the groundwater wells. Water level is an important parameter for understanding the movement of groundwater during the times when samples are collected. TDS is added to the permit as a groundwater monitoring parameter which will enable an assessment of whether groundwater TDS standards can be met. The Department has also determined that there is an insufficient amount of lead data to conclusively determine whether or not there is a reasonable potential to exceed standards at this time; therefore, additional lead data (in both Outfall 001 and the groundwater monitoring wells) shall be collected. The Department reserves the right to evaluate the data and remove the parameters as a requirement for monitoring or establish discharge limitations depending upon what the data results show at any time during the permit cycle.

The frequency for monitoring groundwater data has been increased from semi-annually to monthly. The Department has determined that this is necessary to develop an adequate database necessary for evaluations for the next permit cycle. During this permit cycle, at this time, there are only two dates for groundwater data.